

College of Public Health & Health Professions
PHC: 6937
Special Topic: Public Health Virology (3 credits)

Instructor's Information

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Office hour: M 11 AM – 12 PM

Class days, times, and locations

Tuesday: 9:35 – 10:25 AM
 Thursday: 9:35 – 11:25 AM
 HPNP Bldg. Room 4170 (EGH
 Conference Room)

Course Description

Virology, the branch of science dealing with the study of viruses, is a dynamic field, constantly changing and growing. This course deals with aspects of virology relevant to public health. Students will learn the basics of animal virology: what is a virus, and about virus genomes and structure, the infectious cycle, different types of infections, transformation, vaccines, and gain knowledge of many of the viruses of public health importance worldwide. Classroom sessions will consist of lectures, and there will be assigned readings. Students will be graded based on class participation, their performance in exams, and written assignments. The course is designed for students preparing for careers in public health.

Prerequisites: Two semesters of Biology, preferably molecularly oriented courses. An introductory course in microbiology is highly recommended.

Course Objectives and/or Goals

At the end of this course the student will possess introductory understanding of:

- Contemporary viruses of public health importance
- Methods used for diagnosing virus infections
- Human virus taxonomy
- Diseases caused by human viruses
- How virus reproduction can lead to disease

Topical Outline

Class No.	Lecture Title	Date	Textbook
1	What is a virus?	Aug. 23	Flint Vol 1 Chp 1
2	Virus infections, transmission, and the infectious cycle	Aug. 28	Flint Vol 1 Chp 2
3	Virus genomes and the Baltimore Classification Scheme	Aug. 30	Flint Vol 1 Chp 3
4	Virus particle structure and determination thereof	Sept. 4	Flint Vol 1 Chp 4
5	Attachment and entry of virus particles into cells	Sept. 6	Flint Vol 1 Chp 5
6	RNA directed RNA synthesis by RNA viruses	Sept. 11	Flint Vol 1 Chp 6
7	Exam 1	Sept. 13	
8	Transcription and RNA processing	Sept. 18	Flint Vol 1 Chp 8 through p277 and Chp 10 through p364

Class No.	Lecture Title	Date	Textbook
9	Virus DNA replication schemes	Sept. 20	Flint Vol 1 Chp 9
10	Retroviruses, reverse transcription, and integration	Sept. 25	Flint Vol 1 Chp 7
11	Assembly of virus particles	Sept. 27	Flint Vol I Chp 12 and 13
12	The infected cell	Oct. 2	Flint Vol 1 Chp 14
13	Virus infections: general principles	Oct. 4	Flint Vol 2 Chp 1 and 2
14	Exam II	Oct. 9	
15	Intrinsic and innate host defenses against viruses	Oct. 11	Flint Vol 2 Chp 3
16	Host adaptive immunity	Oct. 16	Flint Vol 2 Chp 4
17	Mechanisms of virus pathogenicity	Oct. 18	Flint Vol 2 Chp 5
18	Acute virus infections	Oct. 23	Flint Vol 2 Chp 5
19	Persistent virus infections	Oct. 25	Flint Vol 2 Chp 5
20	Viruses and cancer (oncogenic viruses)	Oct. 30	Flint Vol 2 Chp 6
21	Exam III	Nov. 1	
22	Vaccines	Nov. 6	Flint Vol 2 Chp 8
23	Antivirals	Nov. 8	Flint Vol 2 Chp 9
24	Virus evolution	Nov. 13	Flint Vol 2 Chp 10
25.	Emerging and re-emerging viruses	Nov. 15	Flint Vol 2 Chp 11
26.	HIV, AIDS, HTLV, and Human endogenous retroviruses	Nov. 20	Flint Vol 2 Chp 6
27.	Thanksgiving holiday (no class)	Nov. 22	
28.	Gene therapy using virus vectors	Nov. 27	
29.	Prions	Nov. 29	
30.	Current topics	Dec. 4	
31.	Reading Day	Dec. 6	
32.	Final Examination	Dec. 11	
Grades Due		Dec. 17	

Course Materials

Recommended textbooks: Principles of Virology. Vol I: Molecular Biology, Vol. II: Pathogenesis and Control (S.J. Flint et al., Third Edition, ASM Press 2015).

Course Requirements/Evaluation/Grading

Students will be graded on a standard letter scale of A to F. Students will be evaluated by their class participation (20%), 3 regular examination scores (15% each), student presentation (15%), and a final examination (20%). Students who fully participate and attend every session will earn at least a B for the class participation portion of the overall grade. To earn an A in class participation, students must attend each session and demonstrate that they prepared for lectures beforehand (through reading assigned text, interacting with the lecturers, and actively participating in group exercises).

Percentage or points earned in class	93%-100%	90%-92%	87%-89%	83%-86%	80%-82%	77%-79%	73%-76%	70%-72%	67%-69%	63%-66%	60%-62%	Below 60%
Letter Grade equivalent	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

Attendance Policy

Attendance is mandatory.

Policy Related to Make-up Exams or Other Work

Attendance and Make-up Work – I expect you to attend and be prepared to participate in all class sessions. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis.

Statement Related to Accommodations for Students with Disabilities

Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (<http://www.dso.ufl.edu>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

Critical Dates for Examinations and Other Work

On the first day of class the instructor will distribute an updated syllabus and class schedule that will indicate the specific dates of examinations and other class activities.

Expected Student Demeanor

Students are expected to arrive in class ready to learn before the class begins. The use of cell phones, pagers or laptop computers (except for class assignments) is not permitted in class!

Statement of University's Honesty Policy (cheating and use of copyrighted materials)

Each student is bound by the academic honesty guidelines of the University and the student conduct code printed in the Student Guide and on the University website. The Honor Code states: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." Cheating or plagiarism in any form is unacceptable and inexcusable behavior.

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: www.health.ufl.edu/shcc

Crisis intervention is always available 24/7 from:
Alachua County Crisis Center: (352) 264-6789.

BUT – Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.